



Tech-Bond Solutions

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TECHNICAL DATA SHEET

SI Green SI(0-5 cP), *SI Blue*(100 cP), *SI Brown*(600 cP) and *SI Black*(1500 cP) Surface Insensitive (SI) Structural Cyanoacrylates (SCA'a)

Profile:

Our adhesives are Structural Cyanoacrylates that will bond plastic, fabrics, metals, wood, ceramics and a wide variety of other materials to themselves and to other, different substrates. Performance of these adhesives will be improved by using our standard Activator/Accelerators.

Physical Properties

As a Monomer - *Cyanoacrylate ester (fluid)*

Monomer Base: Ethyl hybrid

Appearance: Colorless, clear

	<i>SI Green</i>	<i>SI Blue</i>	<i>SI Brown</i>	<i>SI Black</i>
Viscosity at 20°C:	0 - 10 mPa*s	100 - 170 mPa*s		1.300 – 1.800 mPa*s
Density at 20°C:	1,06 g / cm ³	1,06 g / cm ³		1,06 g / cm ³
Flashpoint:	85 °C	85 °C		85 °C
Setting times on...	<i>SI Green</i>	<i>SI Blue</i>	<i>SI Brown</i>	<i>SI Black</i>
Metal (steel):	15 - 30 seconds	15 - 30 seconds	15 - 30 seconds	25 – 50 seconds
Plastic (ABS):	1 - 3 seconds	2 - 4 seconds	4 – 8 seconds	6 – 9 seconds
Elastomer: (EPDM)	1 - 4 seconds	2 - 7 seconds	2 – 6 seconds	3 – 7 seconds
Wood (beech):	>25 seconds	>40 seconds	> than 50 seconds	> than 60 seconds
Storage stability*:	24 months	24 months	24 months	24 months

As a Polymer

Cyanoacrylate (solid)

Tensile strength on rubber (NBR)# : 64 N / cm²

Tensile shear strength on steel: 11 - 25 N / mm²

Temperature range (Polymer): -55 to 95 °C

* at room temperature in unopened original containers

= material failure

	SI Green	SI Blue	SI Brown	SI Black
Temperature Range (°F)	-65 to 220	-65 to 220	-65 to 220	-65 to 220
Gap Fill (in)	0.002	0.004	0.005	0.006
Tensile Strength (psi) steel to steel	3,500 - 4,800	3,500 - 4,800	3,500 - 4,000	3,500 - 4,000
Overlap Shear Strength (psi)	3,500 - 4,800	3,500 - 4,800	3,500 - 4,000	3,500 - 4,000

Curing Performance

Gaps along the bond line will affect set speed. Smaller gaps tend to increase the speed. Activators can be applied to improve set speed but may also impair overall adhesive performance.

Polymer (Cured)

Appearance:	Colorless Solid
Service Temperature Range:	-65°F to 220°F
Softening Point:	283°F
Refractive Index (ND 20):	1.49
Full Cure Time:	24 Hours or longer based on gap depth
Dielectric Strength (KV/mm):	11.6
Dielectric Constant (@ 1Kc):	5.4
COE (in./in./F)	000126

Solubility

Nitromethane, Acetone, Dimethylformamide, Caustic Solutions, Strong Acids

Chemical Resistance

Sheer strength on steel/steel after a 12 month soak

Solvent	% Strength Retained
Motor Oil:	100
Gasoline:	100
Trichloroethane:	100
Freon TA:	100
10% NaOH:	0
10% Hcl:	0
Water:	0 ¹

1 – Degradation of the bond was due to corrosion of the steel; not the bond between the surfaces.

General Instructions

Surfaces to be bonded should be clean and dry. Dispense a drop or drops to one surface only. Apply only enough to leave a thin film layer after compression. Press parts together and hold firmly for a few seconds up to a minute. Good contact is essential. An adequate bond develops in less than one minute, operational strength is achieved in approximately 30 minutes and maximum strength is attained in 24 hours. Our structural adhesives, if left uncapped, will deteriorate by contamination from moisture in the air because cyanoacrylates cure by polymerization. If polymerization occurs, whitening may appear on the surface of the container or on the bonded materials. Should this happen, wipe surfaces well with acetone.

Storage

Products should be stored unopened in a cool, dry place out of direct sunlight. Products can be refrigerated for improved shelf life but should be brought back to room temperature before use.

Disclaimer

The data mentioned in this data sheet, particularly the recommendations for application and use of products are based on our recent knowledge and experience. Due to the fact of having so many different materials involved and conditions of applications which are out of our influence, we strongly recommend to do sufficient tests to guarantee that our products are suitable for the intended process and applications. Except for willful acts any liability based on such recommendations or any verbal advice is hereby expressly excluded.